

AMENDMENTS IN THE CLAIMS

Claim 1 (currently amended): A device for ~~treating~~ altering or ablating a tissue in an individual comprising:

an abrasive member contacting an abrasive material disposed on said tissue or comprising an abrasive material attached thereon and contacting said tissue~~applicator~~;

a means to drive said abrasive member at high frequency~~applicator~~, and

~~an~~ said abrasive material..

Claim 2 (original): The device of claim 1, further comprising a housing means.

Claim 3 (canceled)

Claim 4 (original): The device of claim 1, wherein said tissue is membranous or non-membranous.

Claim 5 (original): The device of claim 4, wherein said membranous tissue is the stratum corneum.

Claim 6 (original): The device of claim 5, wherein said non-membranous tissue is bone.

Claim 7 (canceled)

Claim 8 (original): The device of claim 1, wherein said driving means is a piezoelectric material, a solenoid, a pressurized gas, an explosive discharge, a voice-coil, an electro- or magneto-responsive material, or an electro- or magneto-rheologic material, or a shape-memory alloy or polymer.

Claim 9 (currently amended): The device of claim 8, wherein said electro[[
]] ~~or magneto~~-responsive material is polypyrrol.

Claim 10 (original): The device of claim 8, wherein said electro-rheologic material is metallic filings dispersed in a viscous fluid.

Claim 11 (original): The device of claim 8, wherein said magneto-rheologic material is magnetic filings dispersed in a viscous fluid.

Claim 12 (original): The device of claim 8, wherein said shape-memory alloy is Nitinol.

Claim 13 (original): The device of claim 8, wherein said driving means further comprises an electrophoretic means, mechanical pressure, osmotic pressure, hydrostatic pressure or a diffusion gradient.

Claim 14 (original): The device of claim 1, wherein said abrasive material is biologically inert particles.

Claim 15 (original): The device of claim 14, wherein said abrasive has a particle size of about 30 microns to about 120 microns.

Claim 16 (original): The device of claim 15, wherein said abrasive has a particle size of about 50 microns to about 90 microns.

Claim 17 (original): The device of claim 14, wherein said abrasive is diamond, aluminum oxide, carborundum, or ice.

Claim 18 (original): The device of claim 1, wherein said abrasive further comprises a lubricant.

Claim 19 (original): The device of claim 18, wherein said lubricant is water, a hydrogel, a lipid, aqueous carbohydrate, petrolatum, or glycerol or a combination thereof.

Claim 20 (original): The device of claim 1, further comprising a means to deliver a pharmaceutical.

Claim 21 (original): The device of claim 20, wherein said pharmaceutical is an anesthetic, nitroglycerin, an anti-nauseant, an antibiotic, a hormone, a steroidal antiinflammatory agent, a non-steroid antiinflammatory agent, a chemotherapeutic agent, an anti-cancer agent, an immunogen, an anti-viral agent or an anti-fungal agent, or a diagnostic material.

Claim 22 (original): The device of claim 21, wherein said antibiotic is tetracycline, streptomycin, sulfa drugs, kanamycin, neomycin, penicillin, or chloramphenicol.

Claim 23 (original): The device of claim 21, wherein said hormone is parathyroid hormone, growth hormone, gonadotropins, insulin, ACTH, somatostatin, prolactin, placental lactogen, melanocyte stimulating hormone, thyrotropin, parathyroid hormone, calcitonin, enkephalin, or angiotensin.

Claim 24 (original): The device of claim 21, wherein said anesthetic is lidocaine, bupivocaine, tetracaine, morphine, or fentanyl.

Claim 25 (original): The device of claim 21, wherein said immunogen is a vaccine.

Claim 26 (original): The device of claim 20, wherein said delivery means is said abrasive, wherein said abrasive is said pharmaceutical or said abrasive further comprises a lubricant containing said pharmaceutical.

Claim 27 (original): The device of claim 26, wherein said pharmaceutical is a crystallized pharmaceutical or a powdered pharmaceutical

Claim 28 (original): The device of claim 27, wherein said crystals are frozen.

Claim 29 (original): The device of claim 20, wherein said delivery means comprises:

a reservoir containing said pharmaceutical, and
a permeable membrane through which said pharmaceutical is controllably released.

Claim 30 (original): The device of claim 1, further comprising a collection means to collect ablated tissue or a biomolecule after treating said tissue at a site of interest.

Claim 31 (original): The device of claim 30, wherein said collection means is a container operably connected to said device or an absorptive medium.

Claim 32 (original): The device of claim 31, wherein said absorptive medium is activated carbon, a dehydrated hydrogel or cotton.

Claim 33 (canceled).

Claim 34 (original): The device of claim 1, further comprising a control means to monitor feedback about an electrical property of said tissue, said control means comprising:

at least one first active electrode in electrical contact at a site of interest on said tissue;

a second return electrode in electrical contact distal to said first electrode at the site of interest;

an optional electrically conductive fluid interface between said first and second electrodes and the site of interest on said tissue; and

a controller to monitor an electrical current between said first electrode and said second electrode, said controller further comprising a microprocessor.

Claim 35 (original): The device of claim 34, wherein said first electrode(s) and said second electrode and an electrolyte in body fluid in said tissue comprise a galvanic cell.

Claim 36 (original): The device of claim 34, wherein said property is electrical impedance, electrical conductance, hydration, pH, or an endogenous electrical signal.

Claim 37 (original): The device of claim 36, wherein said endogenous electrical signal is generated by a heartbeat or by brain activity of the individual.

Claims 38-42 (canceled)

Claim 43 (original): The device of claim 1, further comprising a control means to monitor feedback about an optical property of said tissue, said control means comprising:

at least one source of radiant energy directed at a site of interest on said tissue;

a light detector having optics with which to image said tissue thereon; and

a controller to monitor the radiant energy source and the light detector and to analyze data received from the light detector, said controller further comprising a microprocessor.

Claim 44 (original): The device of claim 43, wherein said optical property is fluorescence or reflectance.

Claims 45-49 (canceled)

Claim 50 (original): The device of claim 1, further comprising a control means to monitor feedback about a thermal property of said tissue, said control means comprising:

at least one source of infrared energy directed at a site of interest on said tissue;

an infrared detector having optics with which to measure infrared emission from said tissue thereon; and

a controller to monitor the infrared energy source and the infrared detector and to analyze data received from the light detector, said controller further comprising a microprocessor.

Claim 51 (original): The device of claim 50, wherein said thermal property is thermal diffusivity and thermal conductivity.

Claim 52-60 (canceled).

61. (amended) The device of claim 19 60, ~~further comprising a~~ wherein said lubricant is of glycerol and water.

62. The device of claim 19 61, wherein said lubricant is electrically conductive.

Claims 63-69 (canceled).